

# The Costs Associated with Restricting Portability: Data from The Electrical Contracting Industry

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There is increasing competition between union and nonunion construction contractors. Nonunion contractors tend to have lower labor costs and are able to move crews from one location to another with relative ease. Union contractors are commonly restricted by portability rules from moving crews from one union jurisdictional local to another. This makes it difficult for union signatory contractors to take labor with project-specific experience from one project to another if the projects are in different union locals. Union signatory contractors must instead hire the bulk of their labor from local labor halls. This creates uncertainty with respect to labor quality and productivity. To mitigate this uncertainty, contractors add a portability multiplier on their labor costs as a form of contingency. The amount of this multiplier increases with project complexity. The larger the portability multiplier contractors must add, the less competitive they are with regards to bidding work. This paper presents data collected from interviews with senior executives at 30 union electrical contracting firms. The data reveals that union firms add portability multipliers when they work outside of their home local and that the magnitude of that portability multiplier increases with increasing project complexity.

**Key Words:** Portability, transaction costs, specific assets

## Introduction

Portability is a term used to describe the ability of craft workers associated with one union local to work in the geographic area represented by another union local. Most construction craft unions place restrictions on portability as a means to protect the members of one local from losing work to members of another local. This means that union contractors from one local must hire out of the local hall if they are from another local. Because nonunion contractors are not associated with such locals, they are not governed by portability rules. There is a strong prevailing belief in the union contracting industries that holds that the restrictions on the portability of crews across craft labor union jurisdictional boundaries places union signatory contractors at a competitive disadvantage to nonunion contractors. Based on conversations with multiple union signatory contractors, it has been described that a lack of portability creates issues with productivity, client relationships, and overhead costs.

Union contractors feel that a lack of portability impacts productivity. Instead of being able to build a crew that can move seamlessly from project to project maximizing the skill sets of its members, contractors signatory to the craft unions cannot move whole crews around if moving them involves crossing from one union local territory to another. For example, electrical contractors affiliated with the International Brotherhood of Electrical Workers (IBEW) union are only able to move a total of four field personnel per local to work on projects outside of the boundaries of their home IBEW local. That means that unless they have an office in that local, the contractor must hire out of the IBEW's local hall to fill many, if not all, of positions for skilled electricians necessary to complete the project. While many of the people in a local's hall are highly skilled craft people, they may not have the experience working with the particular contractor or with the particular project type in which they have been hired to participate. The bottom line is that contractors feel that they suffer from a loss of the benefits of the learning curve from multiple projects that span multiple local boundaries because they cannot staff the projects with enough of their own personnel to carry forth the institutional knowledge freely shared within their own organizations. These issues pose a risk for signatory electrical contractors that they mitigate by increasing their costs, which makes their bids less competitive. Many contractors acknowledge that it's not necessary (or even beneficial) to move whole crews from

one location to another, but capping the number of craft people, such as the IBEW does, that can be ported into a local does not allow contractors to properly staff crews outside of their home jurisdictions to minimize costs and maximize productivity, which in turn, makes their bid less competitive and harms relationships with owners.

Because of this, some contractors choose not to pursue client projects outside of their home locals. There is almost undoubtedly a cost to these lost opportunities and a competitive disadvantage for those electrical contractors looking to grow their businesses. Whether they choose to pursue work for clients outside of their home locals or not, nonunion contractors do not face the issues involving portability restriction, and therefore union contractors feel that the lack of portability puts them at a competitive disadvantage. The costs of portability restrictions must be quantified because they likely exacerbate the documented lower costs that nonunion electrical contractors enjoy relative to their union electrical contractor competition (Daneshgari 2004).

### **Background of Portability**

Literature regarding portability was sought, yet very little research has been conducted with respect to portability in the contracting industry. A single peer-reviewed paper was found referencing portability, with it describing efforts in one region to increase flexibility with regards to portability so that it is easier for electrical contractors to meet the needs of customers (Maloney 2003). With regards to the electrical contracting business, portability has only been discussed by Daneshgari et al (2008). Their report states that discussions with electrical contractors and National Electrical Contractors Association (NECA, an association of IBEW-affiliated electrical contractors) business managers revealed that portability not only hurts union electrical contractors in terms of prohibiting them from effectively and efficiently pursuing existing clients into new jurisdictions, but also actually helps nonunion contractors. The Daneshgari et al report did not provide specifics to the economic costs born onto union electrical contractors due to restrictions in portability, but it certainly paved the way for the findings presented in this paper.

No other contemporary studies on the portability of labor between union jurisdictions were found. Therefore, the literature review focused on the issues surrounding the costs of union labor that can be impacted by portability. For this paper, the literature review was divided into two parts, with the first focusing on the effects unionization on firms and the second focusing on the transaction of costs associated with restriction portability.

#### *Economic and Productivity Effects of Unionization on Firms*

Many union-affiliated contractors feel that their craft labor is more productive than their nonunion counterparts. While this statement may seem like grandiose opinion, it is supported by research conducted on the subject. In a seminal book about labor unions, *What Do Unions Do?*, Freeman & Medoff state that “In sum, most studies of productivity find that unionized establishments are more productive than otherwise comparable nonunion establishments (1985, p. 169).” However, in the same study, the authors state that “unionism per se is neither a plus nor a minus to productivity. What matters is how unions and management interact in the workplace (p. 179).” Subsequent research echoes this sentiment, although less favorably over time and has shown that there is no direct effect of unionization and productivity growth (Hirsch 2004).

If the above observations hold true today, then it would appear that unionism is neither a plus nor a minus, and thus that unionism is essentially neutral in terms of increasing productivity. However, literature suggests that as much as 20% of union labor productivity gains are due to lower quit rates and paternalistic (as opposed to authoritarian) management (Brown & Medoff 1978). So, if unionism is neither a plus nor a minus, and thus essentially neutral in terms of increasing productivity, then for every 20% of productivity gains due to lower quit rates and paternalistic management must result in approximately 20% productivity loss due to factors associated with unionization. Sources of productivity losses spurred by unionization include strikes and decrease productivity in some workplaces through contractual work rules, reduced worker incentives, and limited managerial discretion (Hirsch 2004). Portability restrictions, according to contractors, are a productivity-hindering work rule that affects managerial discretion. It is important to point out that recent literature shows that there are issues that result in lower productivity, such as those that restrict portability, that effectively negate the benefits provided by lower quit rates and paternalistic management. While the aforementioned research was conducted in other industries, we are currently witnessing some of these issues dogging union contractors in the construction industry.

### *Transaction Cost Economics*

A branch of economics that lends itself well to the study of portability is transaction cost economics (TCE).

A transaction cost is a cost incurred in an economic exchange made in a market. For example, when a person buys a house, they not only pay for the house, but they also typically pay for the services provided by a real estate agent. The cost of the agent is a transaction cost. Similar costs are typical in the construction industry. An owner, when paying to have a building constructed, not only pays for the direct labor and materials necessary for the building. They also incur the transactions costs of paying a general contractor and/or agency construction manager to oversee the process.

With respect to contracting and portability, contractors incur transaction costs whenever they hire labor to perform work on a project. However, the magnitude of the transaction costs is a function of the governance model that the contractor employs and the specificity (or skill level) of the workers they need. A governance model, simply stated, is how a company organizes itself and its employees. Three general forms of organization are commonly used in the transaction cost model: market, hierarchy and contract (Williamson 2002).

In a pure market governance structure, a company hires all of its employees from the market. In the case of a union contractor, this would mean every time a project was awarded, the contractor would go to the local union hall and hire the requisite number of craft workers, including management (foremen). The local hall makes the market for local union labor. Once the project is completed, all of the employees would be let go from the company and would return to the union hall to await the next project. This practice would be repeated for each awarded project.

Hierarchical governance is just the opposite: the contractor to which the project is awarded employs the labor used for each project. Upon award, the contractor supplies all management (superintendents and foremen) and all labor (journeymen and apprentices). These persons may be union members, but they maintain steady employment with a single contractor. Thus, once the project is completed, they move to the contractor's next project or go back to the contractor's shop to wait for their next project. Because all of these personnel reside with the employer, the employer is incentivized to provide specific training because he will be the direct recipient of the benefits of that training. Contractors are not incentivized to provide specialty training to craft workers that will return to the union hall.

Contract governance, sometimes referred to as a hybrid governance model, is in between a market and a hierarchy, whereby a contractor gets access to specific assets (in this case, union craft workers) by providing specific training those assets. In return, those craft workers agree to only work for that contractor, thereby completing the contract. The difference between the contract and hierarchy governance models is the degree of integration. In a contract governance model, the contractor will elect to permanently employ and train some craft workers and hire the rest from the market (union hall) for a project. In a hierarchy, the contractor aims to supply all of the management and labor for a project from its own workforce.

Each of these models has its benefits when applied appropriately. A central tenet of transaction cost economics is that firms organize themselves in such a way as to economize, or minimize, transaction costs (Demsetz 1983, Williamson 2002). That is, each of the governance models previously described will be employed when it will yield the lowest transaction costs. Rational management, in an effort to provide the lowest cost of means to complete a project, is incentivized to choose the most appropriate lowest cost model. As projects become increasingly complex and specifically-trained assets are necessary to properly complete the project, governance should move from a market to a contract to a hierarchical model, in that order, to minimize transaction costs, as shown in Figure 1 below. With regards to Figure 1:

- When low specificity assets are required ( $k_1$ ), then a market governance model is appropriate.
- As projects become more complex, contractors want to employ specifically skilled management or labor ( $k_2$ ) to mitigate risk.
- For the most complex projects, contractors want increasing amounts of specific assets ( $k_3$ ), and in the most extreme cases, to provide all labor and management.

To be able to employ the contract or hierarchy governance models for projects outside of the contractor's home union local, the contractor would need the discretion to bring the craft workers they permanently employ to a project. However, union rules preventing portability of craft workers prevents this rational management decision making, which introduces labor risk to those projects. As with other risks, contractors typically attempt to blunt their effects by adding contingencies to their costs. This causes a breakdown in the TCE model.

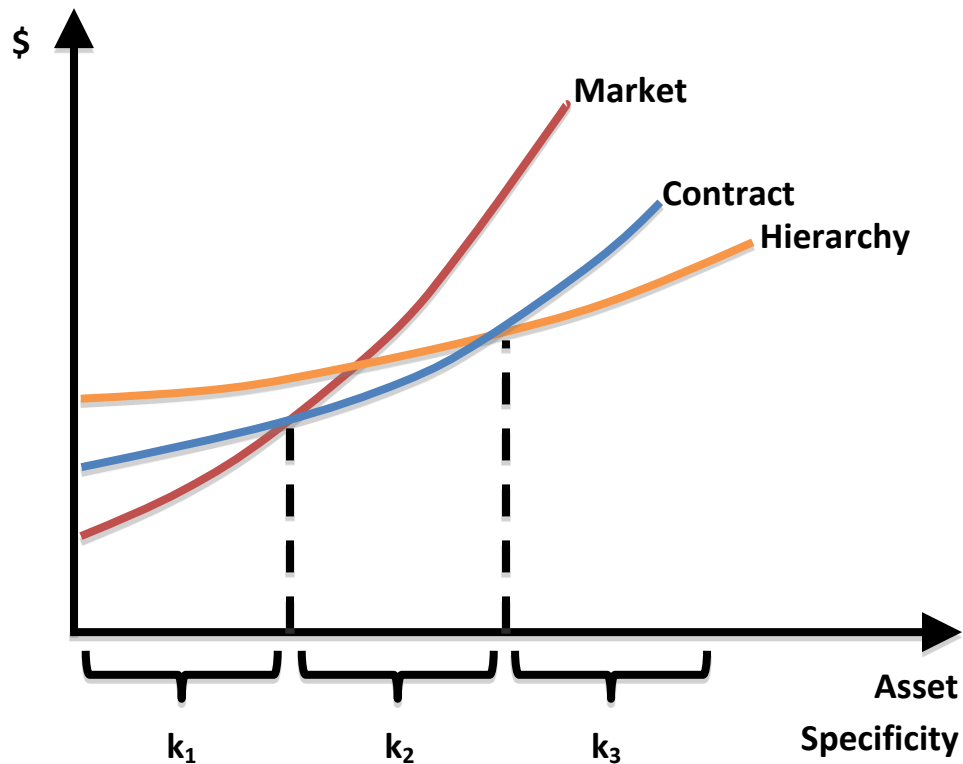


Figure 1: Governance Models for Projects that Require Increasingly Specific Assets As They Become More Complex

### Data Collection and Analysis

The data collected and analyzed in this paper focused on the electrical contracting industry and was obtained primarily from interviews with IBEW-signatory union electrical contractors. Data gathered from interviews with 30 electrical contractors helped to quantify the cost of portability as a percentage of a contractor's bid price. 18 of the electrical contractors that participated in the study were self-selecting in that they volunteered to participate. The remaining 12 electrical contractors were contacted by the author and asked to participate. The study was funded by a non-profit foundation that most of the study participants have a relationship with and thus, where aware of the study. The electrical contractors represent several metropolitan areas throughout the United States and one Canadian company. This data formed the basis for the conclusions presented in this report and the conclusions drawn in this report are based on an unbiased analysis of the collected data. Confidentiality was promised to all of the interviewees.

The one-on-one interviews were conducted mostly over the telephone, but several were also conducted face-to-face in the offices of electrical contractors. Interviewees were asked several questions regarding restrictions on portability and how it affected their work, such as how many locals the contractor worked in, how many projects they typically have outside their home local, how they estimate out-of-local projects and the mark-up they add to account for portability issues, the size of the company (in terms of number of electricians typically employed, etc.).

While many of the questions were structured and scripted, contractors were allowed to discuss portability in terms of their choice. Interviews were typically held with senior management of the contracting firms (CEO, COO, senior vice president), but typically estimators and superintendents were also present during the interviews. The interviews typically lasted anywhere between 30 minutes and two hours.

## Findings

At the onset of every interview, the first question asked of each interviewee was “do restrictions on portability adversely impact how you conduct business?” Of the thirty companies interviewed, twenty-four companies (80%) responded by confirming that it did. If portability is an issue for the overwhelming majority of companies interviewed, the next step is to determine how it is an issue, and the medium for doing so is to determine the cost associated with restricting portability.

### *The Costs of Restricting Portability*

Of the companies interviewed, eighteen were able to readily provide multipliers that they applied to out-of-local bids. These multipliers took many factors into consideration, the most important of which are the local in which the work is to take place, the complexity and risk of the project, and the total estimated contract amount. It is important to discuss each of these prior to discussing the magnitude of the multipliers.

Contractors that apply portability multipliers stated that the biggest factor impacting the size of the multiplier is the local in which the project is located. While most contractors stressed that, by and large, all the IBEW locals they worked in had very capable electricians in the local, it's the variability and availability of good electricians that concerned them. For some locals, the workforce is fairly regular, so when multiple electricians arrive at a project, they will all perform similarly. However, for other locals, the labor is variable. Simply stated, signatory electrical contractors do not know whether or not the electricians they get will be good or bad. This presents a difficult situation for the contractor. If they know what kind of productivity they're going to receive, they can bid accordingly. However, if the workforce they pull from the local is variable, there is risk in choosing productivity rates to use when bidding the project. In competitive markets, electrical contractors must use competitive productivity rates. If there is risk associated with productivity, contractors must mitigate that risk. They typically do so by using multipliers.

Availability is also an issue. When the construction market is slow, multipliers tend to be less because there is a statistically higher chance that labor will be available, specifically highly productive labor. When markets are robust, there is a significantly higher risk that 1) labor might not be available, and 2) the remaining available labor may not possess the skills necessary to effectively complete the project they're being sent to.

Both uncertainty and availability greatly impact the magnitude of the portability multiplier. But so too does the complexity and contract value of the project for similar reasons. Complex projects may require certain skill sets that contractors may have trained electricians that they employ full-time to have. However, when going out-of-local and pulling electricians out of the local hall, there's no guarantee that those electricians will have those project- or client-specific skills. This is not to say that electricians coming out of the local are unskilled, but rather they may not have project- or client-specific skills that will ensure the desired productivity and quality. This also adds uncertainty to the project estimate. The larger the project is, on a contract basis, typically the more electricians will be needed. Therefore, this exacerbates the uncertainty. All of these issues, plus a few additional minor ones, conspire to add uncertainty for contractors when they work out-of-local. With the ability to port some of their own full-time electricians and management into a project, contractors would be able to mitigate some, if not all, of these risks. However, strict restrictions on portability do not allow that and, as such, signatory contractors address these risks by adding multipliers to their out-of-local bids.

For the eighteen companies interviewed that provided data on multipliers, the average multiplier they add to an out-of-local project to mitigate uncertainty due to a lack of portability project is 12.82%. As previously stated, the size of the multiplier varies and, as such, many contractors use a range that is a function of the aforementioned factors. For example, for an out-of-local project that is relatively simple, requires few electricians, and the contractor is able

to port in a foreman and perhaps another of their own electricians, then they may add a low portability multiplier to the estimate. On the other end of the spectrum, for a complex project that will require many electricians to be pulled from the hall and the contractor is not able to port in enough supervision that has experience with the project type and/or client, the contractor will add a larger portability multiplier.

The range of portability multipliers is summarized in Table 1 below. Most contractors unscientifically characterized their portability multipliers in categories of low, medium, and high to correlate to the risk and uncertainty the out-of-local project.

<b>Ranges of Portability Multipliers</b>		
Low Portability Multiplier	Medium Portability Multiplier	High Portability Multiplier
N = 15	N = 18	N = 16
Low: 0%	Low: 3.5%	Low: 5%
High: 20%	High: 27.5%	High: 50%
Average: 7.97%	Average: 12.82%	Average: 18.13%

*Table 1: Summary of Portability Multipliers*

Suffice it to say, there is a wide range of multipliers, which indicates that the uncertainty of labor between locals is highly variable. On the low end of the spectrum, some contractors do not apply a portability multiplier, choosing instead to bid the project as if it was in the home local. However, in one metropolitan area, the lowest portability multiplier a company will add when working a one specific adjacent local is an astounding 20%. On the high end of the spectrum, most contractors add between 10% and 20%. However, one electrical contractor that specializes in industrial work adds 50% to out-of-local work because few of the adjacent locals in which this particular contractor works has ample electricians in the hall that perform industrial work.

While portability multipliers on the lower end of the spectrum may seem trivial, it's important to reiterate that they only apply to union signatory contractors working out-of-local. Non-signatory contractors are not subject to these multipliers because they do not operate under portability restrictions. And the higher-end portability multipliers are anything but trivial. Adding an average of 18.13% of the cost of electrical work on the high end of the spectrum ensures that signatory out-of-local contractors are effectively priced out of many markets, opening those same markets to nonunion competition.

### *Other Non-Trivial Costs*

While the costs associated with portability multipliers are real and significant, there are two other costs born to out-of-local signatory contractors associated with hiring labor from local halls.

#### *Non-Productive Time*

When an electrician, unfamiliar with the contractor they are about to work for, is hired from the union hall, there is oftentimes a period of time required to train the electrician on the specifics of the contractor's practices and the project's needs. This may include safety training or training on contractor-specific means and methods. Also, there may be a period of time required to fill out employment paperwork and possibly submit to a drug test. All of this time is non-productive time, particularly when compared to the complete absence of this time should the contractor be able to port in a worker that is already in their employ. While this is a cost that is only born only to out-of-local contractors, it is important to point out that nonunion contractors that are able to port in workers do not face these same costs.

These costs are a function of the electrician's wages, which vary with respect to location and seniority. Therefore, they will be reported in terms of hours. Fifteen companies had readily accessible data on this form of unproductive time. The average number of hours required to get an electrician on a project and fully operational is four, with a minimum of two hours and a maximum of seven hours.

### *Hiring Costs*

One last additional cost that union signatory out-of-local contractors have to pay each time they hire out of the local union hall is a hiring cost. The cost of hiring is difficult to quantify. As such, only five companies were able to provide data. The cost of hiring consists primarily of the costs associated with processing and fulfilling a newly-hired electrician's employment paperwork, which is typically processed by someone in the contractor's human resources or payroll department, and outfitting them with the contractor's personal protective gear (hard hat, safety vest, eye protection, etc.). The five companies that provided figures each had wildly disparate values, \$50, \$75, \$200, \$500, and \$2,500 (average is \$665).

The point of reporting these other non-portability multiplier costs is not to provide statistical proof of their magnitude, but rather to simply highlight that when an out-of-local contractor needs an electrician from the local IBEW hall, it's not as simple as picking up the phone and an electrician appears on the project site ready to work. No matter how skilled that electrician is, there is still cost and time associated with getting them to the project. These costs, in conjunction with the portability multiplier, are real, with their magnitude being a function of many factors. And while these costs insulate signatory contractors from competition from out-of-local electrical contractors, they do not insulate them from nonunion competition. Portability restrictions create costs that may discourage competition between signatory contractors, but they also encourage competition from nonunion contractors, which is a pyrrhic trade-off.

### **Discussion and Conclusions**

Restrictions on portability create additional costs for union electrical contractors that want to pursue work outside of their home local. 80% of the companies interviewed stated this to be the case. The costs associated with restrictions in portability force out-of-local signatory electrical contractors to increase their bids by an average of almost 13%, with much higher portability multipliers added for complex projects. These costs are used to offset the inability to port in key personnel, such as foremen. As projects become increasingly complex, contractors need to port in increasing numbers of specifically trained labor and crew management to ensure the successful completion of the project. Restrictions on portability prevent this from happening. These restrictions prevent out-of-local signatory contractors from managing projects rationally and make it increasingly difficult to provide clients with the highest quality of work. These portability multipliers protect local contractors by making out-of-local signatory contractors less competitive, but it makes them even more uncompetitive against nonunion competition. In the competitive bidding market, the mark-ups that out-of-local signatory electrical contractors add to account for portability restrictions cannot be passed onto the owner without making the contractor's bid less competitive. Therefore, in most cases those out-of-local contractors must account for portability-related costs by reducing their profit, which weakens their viability as a business.

In addition to the direct costs associated with portability, there are several adjunct costs as well. These include non-productive time for training and drug testing, hiring costs, and accounting costs. Taken as a whole, all of these costs make out-of-local signatory contractors less competitive to in-local signatory contractors and nonunion contractors. These costs and their effects are consistent with economic principles and historic union trends. They ultimately make it difficult for signatory contractors to economically follow customers. Once these customers are lost, it is difficult, if not impossible, to reclaim them.

There are limitations on the findings presented in this paper. First, the data presented was all self-reported by the contractors being interviewed. The author was not able to independently verify the validity or accuracy of the data. However, for the contractors that reported data, the data they reported was readily available, suggesting that they had put effort into collecting it prior to the interviews.

Secondly, while the collected data came from contractors that work in most of the major metropolitan areas of the United States, data from several regions was not included. No data was collected in the United States from the Deep South or states located along the Rocky Mountains. Anecdotal conversations with contractors suggests the finding in this paper extend to those regions, but it is important to state that data specific to those regions was not collected and analyzed as a part of this paper.

Lastly, this data represents the costs of restricting portability in the union electrical contracting industry. Anecdotal evidence exists to suggest that these findings can be extended to other union trades, particularly plumbing and mechanical, but no studies have been done that allow the magnitude of the portability multipliers to be applied to other trades.

Future research will be conducted to evaluate if other union signatory contractors add portability multipliers to bids on out-of-local projects and the magnitude of such multipliers. It is important to understand the presence and magnitude of these multipliers from both a professional and academic perspective. Professionally, contractors need to understand how restrictions on portability affect how they will conduct businesses, both when working in-local and out-of-local or where nonunion competition is presents. Academically, it is important to point out to students that labor costs are not solely a function of wages, fringes, and productivity, but also labor work rules that may apply to certain projects. As the data presented in this research shows, restrictions on portability do play a role in the price for providing construction services for union contractors working out-of-local.

### References

- Brown, C. & Medoff, J. (1978). Trade Unions in the Production Process, *Journal of Political Economy*, 86 (3), 355-378.
- Daneshgari, P. (2004). *A Comparison of Operational Costs of Union vs. Non-union Electrical Contractors*. National Electrical Contractors Association.
- Daneshgari, P., Wilson, M. & Moore, H. *We Build This City: An Investigation of Factors Impacting Growth or Decline of Union and Open Shop Market Share in Large Cities*. National Electrical Contractors Association, 2008.
- Demsetz, H. (1983) The Structure of Ownership and the Theory of the Firm, *Journal of Law and Economics*, 26, 375-390.
- Freeman, R.B. & Medoff, J.L. (1985). *What Do Unions Do?* New York, NY. Basic Books.
- Hirsch, B.T. (2004) What Do Unions Do for Economic Performance?, *Journal of Labor Research*, 25(3), 415-455.
- Maloney, W.F. (2003). Labor-Management Cooperation and Customer Satisfaction, *Journal of Construction Engineering and Management*, 129(2), 165-172.
- Williamson, O.E. (2002). The Theory of the Firm as Governance Structure: From Choice to Contract, *Journal of Economic Perspectives*, 16(3), 171-195.